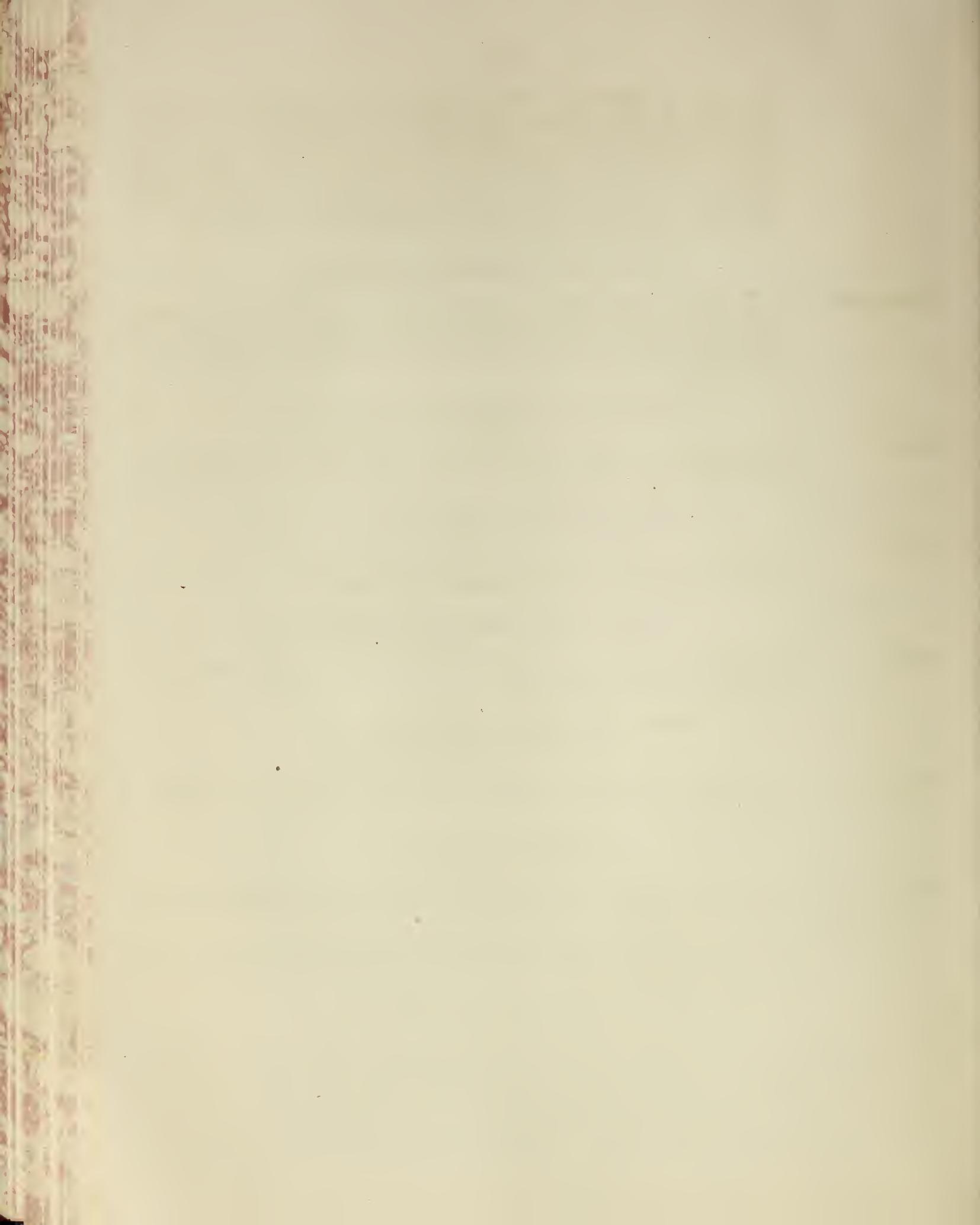


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*John D. Tracy
U.S. Bureau of Entomology*

THE INSECT PEST SURVEY

BULLETIN

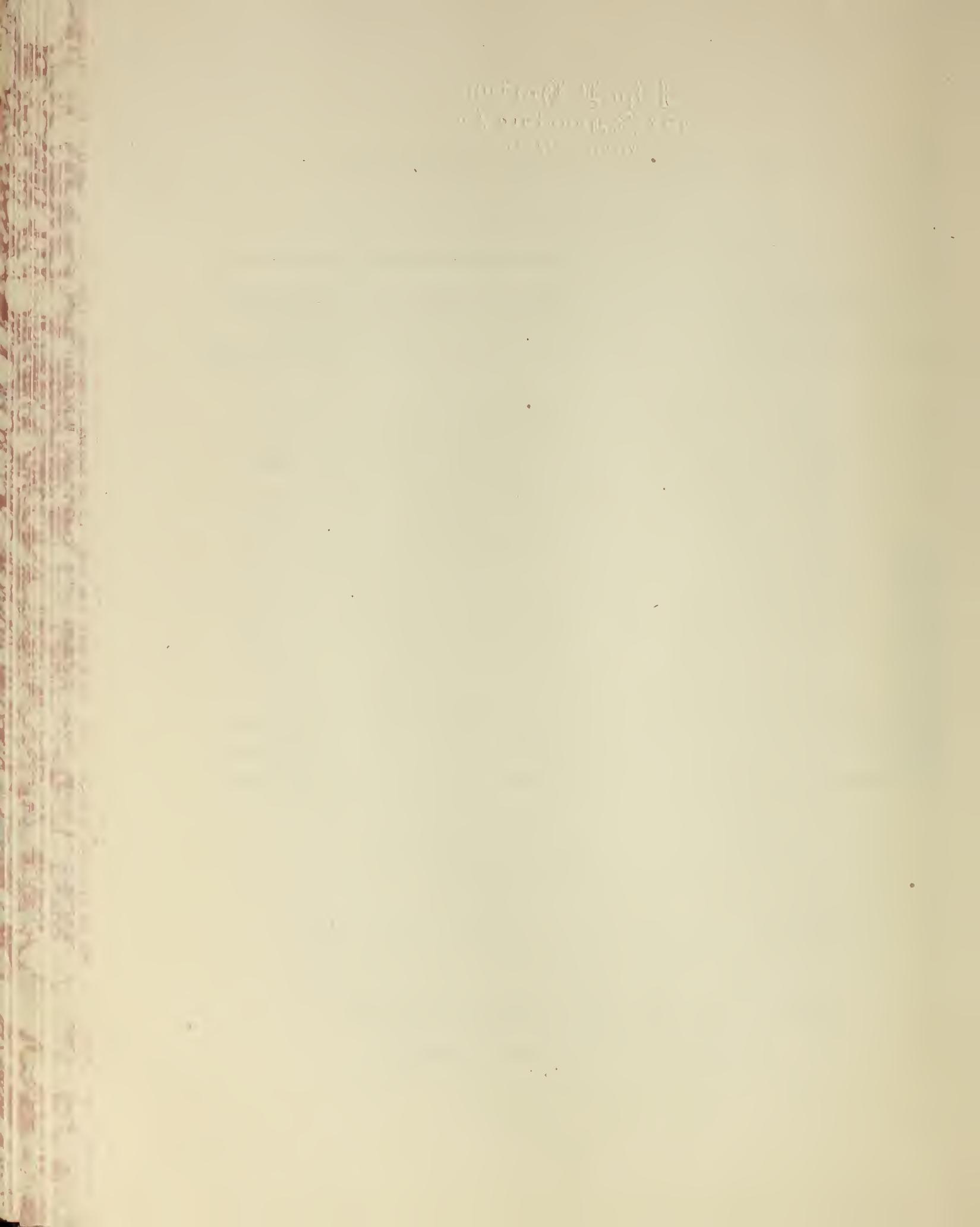
A periodical review of entomological conditions throughout the United States issued on the first of each month from March to December, inclusive.

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INSECT PEST SURVEY BULLETIN

Vol. 7

October 1, 1927

No. 8

CUTSTANDING ENTOMOLOGICAL FEATURES IN THE UNITED STATES FOR SEPTEMBER, 1927

A serious white-grub infestation is reported from the East Central States from western Indiana to eastern Nebraska and Kansas.

The first serious outbreak of the fall armyworm since 1920 is under way in eastern Kansas and Oklahoma. Minor outbreaks have been reported from Indiana, Mississippi, and Alabama.

The Hessian fly situation has not changed materially since our last report. A recent survey in Nebraska shows that the situation is not particularly menacing, while, on the other hand, in south-central Kansas there is every indication of serious trouble from this pest. It was discovered for the first time in Sedgwick County, Colorado, where, in individual cases, damage amounted to approximately 10 per cent of the crop.

The alfalfa weevil has very slightly extended its area of infestation in Colorado this year.

A report of Fuller's rose beetle attacking soybeans in North Carolina is the first record of this insect as a pest to a field crop.

The first record this season of damage to fruit by adults of the cotton leaf worm was received on September 13 from Hansue. The late date and the locality make it evident that but little serious trouble is to be anticipated from this pest in the fruit belt.

Unusually serious damage by the apple maggot is recorded this season from the East Central States extending from Massachusetts to Virginia.

The oriental fruit moth has been very destructive throughout the most of the infested territory. It has been reported from Delaware County, Ohio and is still spreading in Georgia. Very heavy infestation of the second brood is recorded from Connecticut.

One Japanese beetle was collected during September at Perryville, Cecil County, Maryland, which is outside of the previously known infested area.

No specimens of the Mexican fruit worm have yet been found in the grapefruit crop of 1927-28. The last one discovered was on June 27 on some fruit of the previous season.

According to the most recent survey, the territory covered by the Mexican bean beetle now occupies the entire East Central and Middle Atlantic

region, excepting the Coastal plain. The northern limit reached by this pest is southern Ontario, Canada, Monroe County in the southeast corner of Michigan and Erie, Wyoming, and Livingston Counties in the westernmost corner of New York State. It extends thence southward across the center of Pennsylvania, eastward as far as Tioga, Center, and Huntingdon Counties, and still farther eastward along the southern border of the State to Lancaster County, thence across the east-central part of Maryland from Harford County to Frederick County, continuing southward across Virginia through Fairfax, Alexandria, Albemarle, and Pittsylvania Counties into North Carolina, in which State it extends decidedly more to the eastward, being recorded from as far east as Hertford, Pitt, and Duplin Counties. In Georgia, the pest remains in the northern half of the State with the single exception of the territory around Thomasville on the southwestern border. To the westward the insect has made but little advance. In Alabama the territory has extended but very slightly to the south, and the Mississippi territory has remained practically the same as last year. In Kentucky and Tennessee it has moved about one or two tiers of counties westward, while in Indiana similar slight westward movements are recorded, the insect still being some distance from the Illinois State line.

CUTSTANDING ENTOMOLOGICAL FEATURES IN CANADA FOR SEPTEMBER, 1927

The European corn borer has extended its range considerably in northern Ontario and southern Quebec. In Ontario, larval collections have been taken in the counties of Algoma, Sudbury, Nipissing, Parry Sound, Muskoka, St. Joseph's Island, and Manitoulin Island; and in Quebec, in the counties of Pontiac, Hull, Papineau, Argenteuil, Two Mountains, L'Assomption, Vaudreuil, Jacques Cartier, Laval, Beauharnois, Napierville, Missisquoi, and Champlain, all south of latitude 47. The most northerly point in Canada at which the borer has been found is north of latitude 47 at Haileybury, in the county of Timiskaming, Ontario.

A recent survey has revealed a marked reduction in the extent of infestation of the wheat stem sawfly in south-western Manitoba. The average infestation was found to be about 8 per cent, resulting in an actual loss of less than 1 per cent. In Saskatchewan, damage by this insect is undoubtedly much less than in 1926, although considerable losses have been reported from the Swift Current district in the south-western portion of the province.

Collections of the sweet clover leaf-miner, Parectopa albicostella Braun, indicate a general distribution of this insect throughout southwestern Manitoba.

Observations made in the Peace River Block, British Columbia, reveal that the grasshoppers which have been a serious pest in this area for a number of years were completely wiped out this season by heavy spring rains which fell shortly after the grasshoppers had hatched. Grasshoppers caused serious damage to clover and the foliage of young apple trees in the Iberville and Herringford districts, southern Quebec.

The striped June beetle, Polyphylla decemlineata Say, which feeds on the roots of many cultivated plants, is reported as present in dry sandy soils in most of the farming areas of southeastern British Columbia, where it appears to be on the increase.

The yellow-necked caterpillar caused serious defoliation of apple trees at points in the Okanagan Valley, British Columbia, and in southern Quebec.

The apple leaf-sewer, Allononyma vicarialis Zell., occurred in severe outbreak form in Nova Scotia this summer, from Mochelle west to Digby, some orchards being completely skeletonized by second-brood larvae.

A very serious outbreak of pear psylla has been experienced in sections of the Niagara district, Ontario.

The European red mite appeared in outbreak form in southern Ontario, quite late in the season, affecting plum, apple, and other orchard trees.

The spruce budworm has greatly enlarged its area of attack in the Thor Lake district, Ontario, north of Lake Huron and the Georgian Bay. A very severe infestation is reported from Gowganda on the north and east, to Smoothwater Lake on the south, and as far west as the east branch of the Spanish River, an area of more than 4,500 square miles.

The European leaf-mining sawfly, Fenusia pumila Klug, has been found seriously attacking gray birch in certain sections of Nova Scotia.

Outbreaks of the hemlock looper occurred in several sections of Ontario. The infested areas occurred along the St. Lawrence River from Brockville as far east as Gananoque, and in extensive areas in the Muskoka and Parry Sound districts.

The tortricid Sparganothis pettitana Rob. has completely defoliated many maples all over Cape Breton Island.

The maple leaf-miner, Gracilaria negundella Chamb., caused much damage to boxelder throughout Saskatchewan.

The horse bot fly, Gastrophilus intestinalis DeG., is very abundant in Saskatchewan, seriously affecting horses.

GENERAL FEEDERS

GRASSHOPPERS (Acrididae)

Ohio E. W. Mendenhall (September 19): Grasshoppers are quite numerous in central and southern Ohio, and are doing considerable damage to nursery stock fruit and shrubbery.

Illinois W. P. Flint (September 19): Grasshopper damage has been very light over the entire State this year. Only a few scattered cases of injury have occurred. The species noticed in fields have been Melanoplus atlantis and M. differentialis.

Kansas J. W. McColloch (September 21): Injury to fall sown alfalfa was reported from Council Grove, Burlingame, and Paxico.

WHITE GRUBS (Phyllophaga spp.)

Indiana J. J. Davis (September 24): White grubs were abundant in the northwestern quarter of the State, damage occurring to golf greens, lawns, strawberries, and corn.

Nebraska H. H. Swenk (August 25-September 25): Complaints of injury by white grubs have been received from all over the southern and eastern portions of the State. These reports relate chiefly to strawberries, potatoes, truck patches, privet hedges, and hay meadows.

Kansas J. W. McColloch (September 7): The white grub, Phyllophaga lanceolata, Say, is reported very abundant in some wheat fields in Harper and Reno Counties. (September 15): White grubs have injured lawns at Portis and Hugoton, and a strawberry bed has been killed at Stockton.

Utah G. F. Knowlton (September 3): White grubs have been found damaging sugar beets in only a few instances this summer.

C E R E A L A N D F O R A G E - C R O P I N S E C T S

MISCELLANEOUS FEEDERS

FALL ARMYWORM (Laphygma frugiperda S. & A.)

Indiana J. J. Davis (September 24): The fall armyworm was destructive to corn at Aurora September 16.

Illinois W. P. Flint (September 19): There have been several cases of damage by this insect to summer sown alfalfa. A moderately heavy flight of the moths occurred during the first and second weeks in September. Larvae received September 13 were nearly full-grown. Adults of this species are always taken in bait traps from March to October.

Kansas

R. C. Smith (August 28-September 7): There is a heavy outbreak of the fall armyworm over the entire eastern half of the State. Alfalfa, volunteer wheat, and bent grass being attacked, and lawns seriously injured at Manhattan and Wichita. We are watching the outbreak closely and expect little damage to alfalfa because of the abundance of grass. Tachnid parasites, from 31 to 60 per cent were observed. The last outbreaks were in 1911 and 1920.

J. W. McColloch (September 19): There has been a general outbreak of the fall armyworm in the State during the past month. The first report was received on August 31 from Wichita and new reports are still coming in. Bermuda and bent grass have been injured at Wichita, Salina, Caldwell, Dodge City, and Gypsum. Damage to alfalfa was reported from Allen, Woodson, Cherokee, Harvey, and Bourbon Counties. Corn was injured at Altamont. Volunteer wheat has been subject to attack everywhere.
(September 25): Recent reports of injury by the fall armyworm have been received from Cherryvale, Coffeyville, Neosho Falls, and White City.

Oklahoma

A. N. Caudell (September 20): In Payne County, near Perkins, I found alfalfa being very decidedly injured by the larvae of what Dr. Dyar determined as Laphystia frugiperda. Most of the larvae appeared to be about half to two-thirds grown.

Alabama

K. L. Cockerham (August 29): A field of five or six acres of sweet potatoes was being severely defoliated by a caterpillar, which I think is the fall grassworm.

Mississippi

R. W. Harned (September 22): Only two complaints have been received recently in regard to the southern grassworm. One of these complaints was in regard to injury to cotton at Leland on August 15, and the other was in regard to injury to corn at Pecan on August 27.

WHEAT

HESSIAN FLY (Phytophaga destructor Say)

Illinois

W. P. Flint (September 19): During the first part of September there was a moderate emergence of Hessian fly. Examination of early sown wheat made on September 17, showed a moderate number of eggs newly hatched and half-grown maggots on the plants. Emergence is still taking place.

Nebraska

H. H. Swenk (August 25-September 25): According to a survey made during August, there was no serious or commercial damage to the 1926-27 winter wheat crop in Nebraska by the Hessian fly. In several counties, notably Cass, Colfax, Hamilton, Jefferson, Johnson, Otoe, and Saunders, there were a greater or less number

of fields in which the fly worked in the wheat to a noticeable extent in the spring of 1927, but no appreciable damage was done, except possibly in Cass and Johnson Counties where a few fields were sown too early in the fall of 1926 or that had an infested stand of volunteer wheat that was left to help form a crop showed some damage this spring. In no part of Nebraska was Hessian fly damage severe or conspicuous during the past year. It was not difficult, however, in certain localities to find stubble of the 1926-27 winter wheat crop with 7 or 8 out of 100 culms infested with puparia of the fly, and several counties revealed quite a plentiful sprinkling of the fly in the volunteer wheat in August. In some cases the volunteer wheat showed as high as 76 per cent infestation, with from 1 to 4 puparia to the plant. Taken on the whole, the present situation is not highly menacing, but nevertheless, it is not assumed that security from Hessian fly injury to the next wheat crop is assured if conditions for the development of the fly are favorable this fall and next spring. On September 20 about 95 per cent of the fly larvae in the volunteer wheat had transformed into puparia.

Kansas

J. W. McColloch (September 19): The past summer has been very favorable for the Hessian fly. Preliminary surveys show that maggots and flaxseed are very abundant on volunteer wheat in the south-central part of the State. The area of infestation has spread somewhat since harvest. Abundant rainfall throughout the summer has produced a heavy growth of volunteer wheat, much of which is infested, and it will be difficult to destroy this volunteer crop before seeding time. (September 21): A very heavy infestation of the fly occurs in volunteer wheat around Enterprise. Practically every stalk is infested. About half of the maggots are full-grown and transforming to the flaxseed stage. Wheat which was heavily infested with flaxseed was received from Dighton.

Colorado

C. P. Gillette (September 8): This insect was discovered for the first time in Colorado during wheat harvest this year. It has been definitely located in Sedgwick County only, where the injury on certain farms approximated 10 per cent.

FALSE WIREWORM (*Eleodes suturalis* Say)

Kansas

J. W. McColloch (September 21): Larvae of this species were received from Kinsley where they were collected in wheat ground.

CORN

EUROPEAN CORN BORER (*Pyrausta nubilalis* Hbn.)

General statement

Corn-Borer Control, Extension Service, Report No. 17 (September 17) Scouting along the edge of the infested area is still adding new townships to the infested region. It is well to remember that in this new territory the infestation is very light; a township is

added to the list if but one borer is found. Several townships have already been scouted along the western shore of Lake Michigan with no sign of a borer. Isolated points in Illinois and western Indiana have also been scouted with negative results, so that the western limits of this year's infestation have been roughly established.

CORN EAR WORM (Heliothis obsoleta Fab.)

North Carolina

M. A. Thomas (August 31): The corn ear worm is unusually abundant on late corn this season and is doing serious damage in some fields. One field was observed on the above date where every ear showed the work of this insect. In some cases the ear had been almost completely severed from the stalk, causing the grain to fail to develop. In others, the larvae had eaten furrows through the developing grain throughout the entire length of the ear.

Nebraska

M. H. Swenk (August 25-September 25): The third brood of the corn ear worm was about normally injurious during the period covered by this report.

SOUTHERN CORN STALK BORER (Diatraea zeacolella Dyar)

Kansas

J. W. McColloch (September 19): Larvae of this stalk borer have been received from a number of localities in the State during the past month. This pest is either increasing in Kansas or else farmers are finding it because of their interest in the European corn borer.

LESSER CORN STALK BORER (Elasmopalpus lignosellus Zell.)

Mississippi

R. W. Harnel (September 22): A correspondent at Yazoo City sent in on September 2, specimens of the lesser corn stalk borer with the report that these insects were causing 25 per cent injury to his cornfield.

STALK BORER (Papaipema nebris nitela Guen.)

Nebraska

M. H. Swenk (August 25-September 25): Specimens of the stalk borer coming in during the period covered by this report have all been pupae. Relatively very few such specimens have been received since August 25.

ARMYWORM (Cirrhis unipunctata Haw.)

Indiana

J. J. Davis (September 24): The armyworm was reported attacking corn at Crown Point on July 18.

SPOTTED CUCUMBER BEETLE (Diabrotica duodecimpunctata Fab.)

Kansas

J. W. Mc Colloch (September 1): Injury to corn by this insect is reported from Hankato.

CORN ROOT WORM (Diabrotica longicornis Say)

Iowa C. N. Ainslie (September 7): Very little injury from this pest has been observed or reported this season, but the adults were unusually numerous during the late summer, feeding on sunflower, goldenrod, and other late blooming flowers.

Nebraska H. H. Swenk (August 25-September 25): Inquiries regarding the destructive work of the western corn root worm that took place during the past August, and specimens of the resulting injured corn roots, were still being sent in by the middle of September.

Kansas J. W. McColloch (August 25): More than 50 per cent of the corn plants on a 15-acre field have gone down due to the injury by the western corn root worm.

A CORN ROOT WORM (Diabrotica virgifera Lec.)

Colorado C. F. Gillette (September 8): Whether or not this beetle is more injurious in the State than it has been in former years, we are each year receiving more complaints of its depredations where corn is grown. If corn is grown for two or three years in succession, the loss is often heavy, sometimes almost total. The insect is generally distributed over the agricultural area east of the foothills.

CORN ROOT APHID (Anuraphis maidi-radicis Forbes)

Kansas J. W. McColloch (August 14): This aphid destroyed 15 acres of corn at Lebo.

DIFFERENTIAL GRASSHOPPER (Melanoplus differentialis Thos.)

Mississippi R. E. Horned (September 22): The blades of corn have been stripped from several acres of corn in a field near Muldon by grasshoppers of the species Melanoplus differentialis Thos.

CORN-FEEDING SYRPHUS FLY (Mesogramma polita Say)

Kansas J. W. McColloch (September 15): The maggots of this syrphid have been very abundant on corn and sorghum in the State this year. Forty or fifty maggots can be found on a single stem of sudan grass.

TERMITES

Michigan R. H. Pettit (September 27): During the last few days samples of corn stalks hollowed out by white ants have been coming in from Montcalm County. These corn stalks were standing in the field and have been attacked, as indicated by the letters, by the Termites, with the result that large cavities have been excavated in the stalks. As this is rather an unusual occurrence in Michi-

gan, and as there is considerable danger of the introduction of Termites into buildings, through the utilization of the corn stalks, I am notifying the farmers of the situation and advising against the carriage of such stalks into farm buildings.

ALFALFA

ALFALFA WEEVIL (Phytonomus posticus Gyll.)

Colorado

C. P. Gillette (September 8): J. H. Newton who is giving special attention to the control of this insect reports very slight extension of the infested area this year. The injuries from the weevil have not been severe except on a very few farms.

BLACK CUTWORM (Agrotis ypsilon Rott.)

Illinois

W. P. Flint (September 19): In one instance the black cutworm destroyed a field of alfalfa which was sown in August.

POTATO LEAFHOPPER (Empoasca fabae Harr.)

Kansas

R. C. Smith (September 6): This insect was very abundant during August. Severe damage shown by cage rearing, but field damage not distinguished between that done by other leafhoppers and root diseases. It is the chief unusual alfalfa insect of the season; being more abundant than in recent years.

A PYRALID MOTH (Nomophila noctuella D. & S.)

Maryland

E. N. Cory (September 13): Destruction to portions of a newly seeded field of alfalfa is reported, possibly one-fifth of all areas considered. Larvae and pupae were collected September 10, and adults emerged September 12. Some parasites are present but have not yet emerged.

SOYBEANS AND COWPEAS

GREEN CLOVER WORM (Plathyrrhena scabra Fab.)

North Carolina

J. M. Tenhet (September 2): The green clover worm is unusually abundant on soybeans and cowpeas this summer and doing considerable damage.

GREEN STINK BUG (Acrosternum hilaris Say)

Indiana

J. J. Davis (September 24): The green soldier bug was reported September 24 as common in some localities in southern Indiana. In Bartholemew County, there is good evidence that they have been responsible for shriveling of soybean seeds in the pod.

FULLER'S ROSE BEETLE (Pantomorus fulleri Horn)

North
Carolina

J. W. Tenhet (September 1): Although damage to soybeans is negligible, this infestation is interesting as the first known occurrence of this insect on cultivated crops. Fuller's rose beetle is unusually abundant in this locality this year, and is defoliating holly and sweet bay everywhere.

: SORGHUM

CHINCH BUG (Blissus leucopterus Say)

Kansas

J. W. McColloch (September 19): The excessive rainfall this summer checked the chinch bug outbreak in the State. Only one report of damage has been received since the first of August. At Jetmore some injury was reported August 16 to late sorghum which was being grown as a feed crop.

CORN EAR WORM (Heliothis obsoleta Fab.)

Kansas

J. W. McColloch (September 13): The corn ear worm is injuring the heads of kafir at Cimarron.

D E C I D U O U S - F R U I T I N S E C T S

MISCELLANEOUS FEEDERS

JAPANESE BEETLE (Popillia japonica Newm.)

Maryland

L. B. Smith (September 26): One Japanese beetle was collected during September at Ferryville, Cecil County, which is outside of the previously known infested area. A hearing has been called for October 6 at which the extension of the quarantine to the new area will be considered.

General
statement

Monthly News Letter of the Bureau of Entomology, No. 160 (August, 1927): Tiphia popillivora, an imported parasite of the Japanese beetle, which was recovered for the first time last season, has made excellent progress during the present season. It has now been recovered from three of the four original liberations and is abundant over an area of more than three square miles. At the center of the colony it has been destroying as many as 25 Japanese beetle larvae per square yard of ground. Without seriously depleting the "mother" colony, enough material has been collected for nine new colonizations widely scattered over the heavily infested area.

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

Michigan

R. H. Pettit (September 27): A note of interest is the finding of

the San Jose scale on four trees which are reported as being badly encrusted at Charlevoix. This records the occurrence of the scale the farthest north in Michigan. The report was made by L. R. Taft, East Jordan, Michigan.

Colorado

C. P. Gillette (September 8): This insect is only known to occur in parts of Mesa and Delta Counties. In the latter county only in two or three orchards. We have been able to keep this pest in control by prompt quarantine measures and by the uprooting and burning of trees that were not promptly cared for by the owner.

APPLE

APPLE APHID (Aphis pomi DeG.)

Utah

G. F. Knowlton (September 3): The green apple aphid was rather abundant in northern Utah during 1927, though no serious damage was reported.

ROSY APPLE APHID (Anuraphis roseus Baker)

Colorado

C. P. Gillette (September 8): This aphid, which has become rather generally distributed in the orchards of Delta and Mesa Counties, was of very little importance as a pest this year.

WOOLLY APPLE APHID (Eriosoma lanigerum Housm.)

New York

E. P. Felt (September 24): Woolly aphids, probably Eriosoma lanigerum was not so abundant as usual in Rochester (R.E. Horsey).

CODLING MOTH (Carpocapsa pomonella L.)

Colorado

C. P. Gillette (September 8): This insect has been extremely destructive to apple and pear crops in the State this year, the most serious losses being sustained in the Colorado Valley of the western slope. The poor control secured through the use of arsenical sprays makes one wonder if we have bred up a variety of this pest that is quite immune to arsenical poisons.

APPLE AND THORN SKELETONIZER (Hemerophila pariana Clerck)

Connecticut

E. E. Britton (September 23): This insect is slightly more abundant than usual on apple at New Haven. Adults are now resting upon the screens of houses.

New York

E. F. Felt (September 24): The apple and thorn skeletonizer is very numerous in an apple orchard near Genesee Valley Park (R.E. Horsey) This insect appears to be generally established in the southern and western part of the State. In some localities it is exceedingly abundant on unsprayed trees.

YELLOW-NECKED CATERPILLAR (Datana ministra Drury)

Indiana

J. J. Davis (September 24): The yellow-necked caterpillar was reported from Bargersville as abundant on apple the latter part of August.

COTTON LEAF WORM (Alabama argillacea Hon.)

Kansas

J. H. McColloch (September 13): The moths of the cottonleaf worm are reported puncturing apples at Osage City.

APPLE MAGGOT (Rhagoletis pomonella Walsh)

Massachusetts

A. I. Bourne (September 26): The railroad worm has been generally abundant. It has proven to be fully as abundant as during 1925, but not so bad as the previous year. Early varieties were found to be pretty badly riddled by the maggots. Wealthies, where properly sprayed, have apparently come through successfully, and as far as we can tell at present, the late or main season varieties are not seriously affected. (September 29): Following up the report I sent you a few days ago, I would say that later data coming in during the last two or three days, particularly from the eastern part of the State, lead us to believe that injury by the apple maggot is more serious than was at first believed. Some McIntosh which are being harvested show considerable presence of the maggots.

Connecticut

Philip Garman (September 24): The apple maggot is apparently more abundant than usual on apples in New Haven County.

New York

E. P. Felt (September 24): The apple maggot is becoming quite injurious to prunes in the Albany section. It has been troublesome for several years and this season 100 per cent of the fruit was infested in some orchards.

Virginia

R. G. Levering (September 17): We have a tree of good apples that we call Cabin apples that were harvested three or more weeks ago. We put them in the cellar to get mellow, and I think something like 75 per cent of them were infested with maggots. We have found them in several other kinds of apples, including Grimes golden and Magnum bonum, but not to such an extent as in the Cabin apples. I think that we have never been bothered with this pest until this year.

LEAFHOPPERS (Jassidae)

Massachusetts

A. I. Bourne (September 26): We have found, particularly in the eastern part of the State, an abundance of late leafhoppers on apples. They have been found in some orchards in great abundance causing in some cases considerable annoyance to the pickers.

APPLE LEAFHOPPER (Empoasca mali LeB.)

Connecticut

Philip Garman (September 24): This insect is causing considerable mottling of the leaves of apple trees in New Haven and Hartford Counties; damage is hard to estimate. It is apparently more abundant than usual.

North Carolina

E. P. Metcalf (September 9): This pest has done a high percentage of injury throughout the apple-growing region of the mountains and is much more abundant than at any time during the past 20 years.

APPLE CURCULIO (Tachyporusellus quadrifidus Say)

Ohio

E. W. Mendenhall (September 9): The apple curculio has done a great deal of damage to the apple crop this year.

TERMITES

Kansas

J. W. McColloch (September 19): Termites are reported injuring apple trees and asters at Concordia.

PEACH

ORIENTAL FRUIT MOTH (Lasperresia molesta Busck)

Connecticut

Philip Garman (September 24): This pest has now been present for three consecutive years in some orchards, doing great damage each year. It has decreased in some sections and increased in others. It is estimated that 50 per cent of the second-brood larvae were parasitised in the orchard where the parasite Macrocentrus susciliator Roh. was most abundant.

Georgia

C. I. Snapp (September 20): The oriental peach moth continues to spread in Georgia, and has caused damage in some orchards, especially adjoining or near apple orchards which furnish a host for the late generations. During recent weeks it has been found near Hawkinsville, at Woodland, Barnesville, Woodbury, and Knoxville. At Knoxville, it was found to be much worse than the curculio. It had destroyed around 50 bushels of late peaches.

Ohio

E. W. Mendenhall (September 13): The oriental peach moth is found in Delaware County this year and reported quite bad on peach throughout southern Ohio.

PEACH BORER (Aegeria exitiosa Say)

Georgia

C. I. Snapp (September 20): The peach-borer infestation is heavier than normally in Fort Valley. Dealers report heavy buying of paradichlorobenzene, and indications are that more of it will be used this fall than for several years.

PLUM CURCULIO (Conotrachelus nenuphar Host.)

Delaware

H. L. Dozier (September 1): Peach growers in the Bridgeville section of the State have suffered enormous losses this year from wormy peaches. An investigation yesterday indicated that the major portion of this damage is due to late curculio. Apparently there have been two broods of this insect in that section this year.

BLACKBERRY

BLACKBERRY PSYLLID (Trioza tripunctata Fitch)

Maryland

E. H. Cory (September 13): This insect has been reported as attacking blackberry at Earleigh Heights. This is a new record. It is also recorded from Petersburg, Dorchester County.

PERSIMMON

FOREST TENT CATERPILLAR (Malacosoma disstria Hbn.)

North Carolina

Z. F. Metcalf (September 9): This insect seems to be very general on persimmon trees. Practically every tree is infested. Many trees have 20 to 30 feet completely defoliated. This pest was bad last year but is much worse this year.

GRAPE

GRAPE BERRY MOTH (Polychrosis viteana Clem.)

Delaware

H. L. Dozier (September 1): Work of the second brood of the grape berry moth is beginning to show up very badly on several properties in the Dover section. By this date 50 per cent of the berries on 14 acres of vineyard appear to be injured by the worms, which seem to be about a week old.

LEAFHOPPERS (Jassidae)

Ohio

L. W. Hendenhall (September 27): I find these active little insects quite numerous on grape leaves but they do not seem to do any appreciable damage.

SIX-SPOTTED GRAPE BEETLE (Pelidnota punctata L.)

New York

E. P. Felt (September 24): Adults of the spotted grape vine beetle were unusually numerous in late summer on grape vines in the vicinity of New York City, two, three, or even four or five being noticed upon individual vines.

CURRENTS

IMPORTED Currant WORM (Eperonius ribesii Scop.)

Colorado

J. P. Gillette (September 8): This is a comparatively recent arrival but it has become established in many of the gardens of northern Colorado, and has become rather serious where control measures have not been used.

FIGS

THREE-LINED FIG BORER (Ptychodes trilineatus L.)

Mississippi

R. W. Harned (September 22): Specimens of the three-lined fig borer were recently received from Gulfport, where they were reported as causing injury to fig trees.

PECAN

PECAN BEAN CASE BEATER (Aerobasis nebulella Riley)

Mississippi

R. W. Harned (September 22): Aerobasis nebulella was collected on pecan at Brookhaven August 30.

A PHYLLOXERA (Phylloxera notabilis Pers.)

Mississippi

R. W. Harned (September 22): Phylloxera notabilis was collected on pecan at Newton August 20.

PECAN BUD-MOTH (Proteoptynx bolliana Sling.)

Mississippi

R. W. Harned (September 22): Proteoptynx bolliana was collected on pecan at Columbus on August 23 and at Brookhaven on August 30.

CITRUS

CITRUS MEALYBUG (Pseudococcus citri Riss.)

California

Monthly News Letter of the Los Angeles County Hortic. Comm. (September 15): During the fiscal year ending June 30, 1927, the Los Angeles County Insectary propagated and distributed over the mealybug infested orchards of the county approximately 4,000,000 adult Cryptolaemus, the ladybird beetle being used in the control of this pest, according to the report of H. H. Armitage, Deputy Horticultural Commissioner, in charge of this work. A total of 765 properties representing 7,010 acres of citrus but containing an actual infested acreage of 4,775 acres was covered using ten adult beetles per tree. Reital inspections made early in the spring to determine the degree of infestation over the known infested acreage and to locate such natural spread as occurred during the preceding months and again in midsummer to deter-

mine the progress of control resulting from liberations of *Cryptolaemus* and to locate any infestations requiring additional attention, showed 13,388 acres to be infested or 23 per cent of the total citrus acreage in the county, an increase of only 4 per cent over the preceding year. The inspections show the infestation of the coastal citrus areas representing approximately 12,000 acres to be 70 per cent complete while the interior or foothill sections, including the San Fernando Valley, representing approximately 43,000 acres show only 6 per cent infested. As a result of the spring inspection, infestations throughout the county were graded 82 per cent light, 13 per cent medium, and 5 per cent heavy. Under normal field conditions it is necessary to liberate on only a small percentage of the light infestations and both medium and heavy infestations can be checked with liberated *Cryptolaemus* with only nominal injury to the property from the attack of the mealybug. Unfortunately, field conditions were such this season that while they permitted the normal development of the mealybug, the prolonged cool, damp weather materially delayed the activity of the *Cryptolaemus*. In fact, to such an extent that in spite of a laboratory production of *Cryptolaemus*, permitting the complete coverage of all infested properties requiring it, during the normally optimum period of April, May, and June, more or less injury resulted to the present crop. The injury was evidenced in the form of small sizes, "smutty" fruit and a drop of mature valencias in the heavier infestations. Black scale and orange tortrix, however, have been serious contributing factors to these losses this season so that it would be difficult to estimate the direct loss resulting from the attack of the mealybug. The *Cryptolaemus* have made up in part for their spring delay by a late season activity which is resulting in satisfactory seasonal control. In fact, infestations are at a minimum at the present time and present liberations of *Cryptolaemus* are being confined to those properties where necessary control measures for other insect pests in the orchards have interferred with the completion of mealybug control from the initial liberations.

MEXICAN FRUIT WORM (*Anastrepha ludens* Loew)

Texas

S. B. Fracker (September 27): No specimens of this insect have yet been found in the grapefruit crop of 1927-28. The last one discovered was on June 23 in some late fruit of the previous season.

TRUCK-CROP INSECTS

MISCELLANEOUS FEEDERS

BLACK BLISTER BEETLE (*Epicauta pennsylvanica* DeG.)

Ohio

E. W. Mendenhall (September 16): These blister beetles are quite troublesome in several of the counties in central and southern Ohio attacking asters and gladiolus.

MARGINED BLISTER BEETLE (Epicauta cinerea marginata Fab.)

Mississippi

R. W. Harned (September 22): Epicauta marginata was reported as causing injury to clematis at Oxford on August 16, to eggplant at Hattiesburg August 30, and to Boston ivy at Meridian on September 17.

POTATO

COLORADO POTATO BEETLE (Leptinotarsa decemlineata Say)

Colorado

C. P. Gillette (September 8): This old time potato pest has done very little damage to the crop this year. We seldom have reports of serious damage from it any more except in limited areas.

POTATO FLEA BEETLE (Epitrix cucumeris Harr.)

Colorado

C. P. Gillette (September 8): The potato flea beetle continues to be a major pest on potatoes in the Greeley section, and has been rather more abundant than usual this year. It does not seem to be a pest on the western slope as yet.

A MOLE CRICKET (Gryllotalpa borealis Burm.)

Indiana

J. J. Davis (September 24): Mole crickets, Gryllotalpa borealis Burm. were reported damaging potatoes at Vincennes September 12.

CABBAGE

CABBAGE WORM (Pontia rapae L.)

Massachusetts

A. I. Bourne (September 26): Cabbage worms are normally abundant as evidenced by the condition in the field at the present time.

Indiana

J. J. Davis (September 24): Common cabbage worms were reported abundant from a number of localities in the northern half of the State during the first half of September.

CABBAGE MAGGOT (Hylemyia brassicae Bouche)

Colorado

C. P. Gillette (September 8): This insect has rapidly increased in numbers, and it has been injurious to cabbage and cauliflower in the State during the past few years. It has also spread to some of the garden sections of the western slope.

HARLEQUIN BUG (Luridantia histrio Hahn)

North Carolina

W. A. Thomas (August 25): This insect has been unusually abundant on collards for the past month and in many fields near Chadbourn the plants have been completely destroyed. In one field,

50 adults were collected from a single plant. No field so far observed in this section has escaped the ravages of this pest. The general average of the damage will exceed 50 per cent of the crop. A few egg parasites have been observed, but no percentage of parasitism has yet been determined.

Kansas

J. W. McColloch (August 24): The harlequin bug caused some injury to gardens at Emporia.

Mississippi

R. W. Harned (September 22): Recently adults of the harlequin bug were noted feeding on the buds, base of the flowers, and pods of okra in a garden at Starkville.

CABBAGE WEBWORM (*Hellula undalis* Fab.)

North Carolina

J. N. Tenhet (September 2): In one garden in Chadbourn about one-half an acre of collards and cabbage is 100 per cent infested and practically all plants are dying.

Mississippi

R. W. Harned (September 22): Serious damage to collards and cabbage was reported on September 15 from Horn Lake, by specimens identified by J. N. Langston as the cabbage webworm. This species was also reported as injuring turnips at Fulton on September 8.

STRAWBERRY

A GROUND BEETLE (*Harpalus pennsylvanicus* DeG.)

Colorado

C. P. Gillette (September 8): Geo. H. List found this insect destructive to a few strawberry beds in the vicinity of Fort Collins during the past summer. In at least two instances, the injury was so severe that the crops were a complete failure.

ASPARAGUS

ASPARAGUS BEETLE (*Crioceris asparagi* L.)

Colorado

C. P. Gillette (September 8): This insect, which was introduced several years ago into Boulder County, has now spread as far north as Fort Collins and south to Denver. During the past summer it has attracted the attention of asparagus growers about Denver, and in some cases was seriously destructive to the asparagus plants.

BEANS

MEXICAN BEAN BEETLE (*Epilachna corrupta* Muls.)

New York

F. F. Howard (September 19): The Mexican bean beetle has been found in Wyoming County.

Maryland

E. F. Cory (September 13): The Mexican bean beetle has been recorded from Harford County.

Virginia W. S. Abbot (September 16): This insect was first found at Vienna September 9, but must have been working for some time. Also found at Fairfax.

Indiana N. F. Howard (September 3): This insect was reported from Daviess and Warrick Counties.

Kentucky J. J. Davis (September 24): Mexican bean beetles were reported destructive in southern part of Hamilton County September 17.

Kentucky N. F. Howard (September 3-5): The Mexican bean beetle has been found in Henderson, Trigg, and Marshall Counties.

Nebraska M. H. Swenk (August 25-September 25): Probably the most important entomological event in Nebraska during the period covered by this report was the discovery, late in August, that the Mexican bean beetle had arrived in Scottsbluff County, evidently following down the North Platte Valley from Wyoming.

Tennessee N. F. Howard (September 6-7): The Mexican bean beetle has been found in Henry, Carroll, Henderson, Chester, and McNary Counties.

Mississippi R. W. Horned (September 22): Specimens of the Mexican bean beetle were received from Booneville August 25, and from Belmont September 3. Reports indicated that these insects were causing serious damage to garden beans.

Colorado C. P. Gillette (September 8): This beetle continues to extend its area in the bean-growing sections and especially on the western slope. It has now become very destructive in most of the bean-growing sections of Mesa and Delta Counties, and has done considerable damage to the beans in lower Arkansas Valley during the past summer. It is also reported as causing very heavy losses to the bean crop in the vicinity of Weldona, Morgan County. It is the first time it has been reported as a serious pest in this section of the State.

CUCUMBERS AND MELONS

STRIPED CUCUMBER BEETLE (Diabrotica vittata Fab.)

Colorado C. P. Gillette (September 8): This insect has spread to nearly all of the cucumber and melon growing sections east of the continental divide, but has never been a real pest outside of the lower Arkansas Valley in the State, where it has been only moderately abundant during the past summer.

MELON APHID (Aphis gossypii Glov.)

Colorado C. P. Gillette (September 8): This is another pest that has distributed itself over the melon-growing sections of the eastern

slope in Colorado, but I have never had it reported as a pest in any of the garden areas of the western slope in this State. It has been only moderately abundant on cucumbers and melons this year.

PICKLE WORM (Diaphania nitidalis Stoll)

Indiana

J. J. Davis (September 24): The pickle worm was destructive to cucumbers at Princeton according to a report received September 12.

SQUASH

SQUASH BUG (Anasa tristis DeG.)

Nebraska

M. H. Swenk (August 25-September 25): Injury by the squash bug continued to be increasingly complained of during late August and early September.

ONION

ONION MAGGOT (Hylemyia antiqua Meig.)

Colorado

C. P. Gillette (September 8): This species, like the cabbage maggot, has also been rather rapidly on the increase in the onion-growing sections of the State during the last few years. It has also spread to some of the garden sections of the western slope.

ONION THrips (Thrips tabaci L.)

Massachusetts

A. I. Bourne (September 25): Onion thrips throughout the Connecticut Valley region this past season caused only a light to moderate infestation. While this represented a considerable advance over the condition in 1926, when the pest was remarkably scarce, yet compared with the condition during the period of the last ten years, the present season's abundance would be just about one-half normal infestation.

BEET

BEET ROOT APHID (Pemphigus betae Doane)

Colorado

C. P. Gillette (September 8): The losses due to this aphid are uniform from year to year, as it is generally distributed throughout the sugarbeet-growing area of the State. The losses sustained, while seldom severe, are in aggregate rather heavy. The almost complete elimination of the narrow-leaved cottonwoods on the farms of the beet-growing sections, has apparently reduced the losses to some extent.

ZEBRA CATERPILLAR (Mamestra picta Harr.)

Nevada

G. G. Schweis (September 14): These insects have apparently mi-

grated from burdock to beets. Earlier in the year they were reported from Fernley on alfalfa. No serious damage reported.

SWISS CHARD

SPOTTED BEET WEBWORM (*Hymenia perspectalis* Hüb.)

Alabama L. W. Brannon (August 29): Moths of this species were seen flying about in a patch of Swiss chard on July 1. Nine moths were caught that day. The first larva of this species was found in the field on June 27 so the moths appeared sooner than first noticed. On July 8 the first pupa was found and on July 12 all stages of larvae were plentiful. First generation moths started appearing in the field on July 18. First generation moths that emerged August 9 are still alive. Second generation larvae are now pupating and second generation moths will probably be out in about 10 days. Larvae of this species are not doing so much damage this season as they did last year.

SWEET POTATO

A TORTOISE BEETLE (*Metriona bivittata* Say)

Mississippi R. W. Harned (September 22): Tortoise beetles, Metriona bivittata, were collected in a sweet-potato field at Natchez on August 22. were reported as causing considerable injury.

SWEET-POTATO FLEA BEETLE (*Chaetocnema confinis* Cr.)

Alabama K. L. Cockerham (August 29): These flea beetles were abundant in a sweet-potato field at St. Elmo and were apparently doing considerable damage.

SEMITROPICAL ARMYWORM (*Prodenia eridania* Cram.)

Mississippi R. W. Harned (September 22): Specimens of the semitropical armyworm Xylonyx eridania have been received recently from Fruitland Park and Natchez. Serious injury to sweet-potatoes was reported from both places.

EGGPLANT

EGGPLANT LACEBUG (*Gargaphia solanii* Heid.)

Mississippi R. W. Harned (September 22): Specimens of the eggplant lacebug were collected from eggplants at Halstead on September 14.

TURNIPS

CABBAGE MAGGOT (*Hylemyia brassicae* Bouche)

Ohio E. W. Mendenhall (August 26): quite a little damage was reported

from Columbus, and to the south, of the cabbage maggot injuring turnips and making them unsalable.

S O U T H E R N - F I E L D C R O P I N S E C T S

COTTON

BOLL WEEVIL (Anthonomus grandis Boh.)

Georgia O. I. Snapp (September 17): The drought during the last month has materially reduced the boll-weevil infestation. Some counties in middle Georgia have produced a good crop of cotton.

Louisiana W. E. Hinds (September 23): Boll-weevil damage in the main cotton areas has been quite heavy, but many fields in the southern part of the State, where cotton growing is scattered and new, have practically escaped weevil damage this season. The late-planted cotton is suffering much from weevils and yield prospects are very poor.

COTTON LEAF WORM (Alabama argillacea Hbn.)

Washington, D.C. F. C. Bishopp (September 28): A few moths of Alabama argillacea have recently been observed flying around lights in Washington, D. C.

Arkansas F. C. Bishopp (September 11): Leaf-worm attack on cotton along the highway from Texarkana to Sikeston, Mo., is very spotted. Very little complete defoliation was observed, and many fields showed no apparent infestation. Some poisoning has been done, but it is not general.

Mississippi R. W. Harned (September 22): Although the cotton leaf worm has appeared quite generally over the State during the past few weeks, the damage it has caused has been slight. We have received specimens collected on cotton from several localities.

Louisiana W. E. Hinds (September 23): Cotton leaf worms have not increased so rapidly or spread so generally in Louisiana this season as seemed likely to occur two months ago. The principal damage has been in the northern part of the State and considerable poisoning has been done for their control.

Texas F. C. Bishopp (September 6): Very little complete defoliation of cotton by the leaf worm has taken place in northern Texas. Some fields show no evidence of the presence of worms, but many are "ragged" considerably.

Mexico A. W. Morrill (September 16): The first specimen of the season

in the Yaqui Valley, a full-grown worm, was found on August 2. Since then to date, gradually increasing numbers, but only a few acres out of a total of 3,000 have shown noticeable leaf injury. Crop injury held to an inappreciable amount by use of calcium arsenate and with aid of an undetermined hymenopterous parasite.

BOLL WORM (Heliothis obsoleta Fab.)

Oklahoma

A. N. Caudell (September 20): In Payne County, near the village of Coyle, I saw a field of cotton in which almost every boll was eaten by the cotton worm, then most all emerged, and scarcely a square could be found without either a larva or a pupa of the boll weevil in it, usually a larva. So complete was this infestation that it was predicted that the cotton would not be worth picking.

Mexico

A. W. Morrill (September 19): Boll worm damage to cotton in the Yaqui Valley covered a period of about four weeks beginning the middle of July. Damage ranged from 6 to 20 per cent of bolls destroyed by worms as shown by examination of 200 bolls each in eight localities. Boll worm damage was negligible by September 1. Increase to 3 or 4 per cent in one 200-acre field examined September 13. Eggs were numerous on silk of corn trap plants, 5-10 per ear.

SALT-MARSH CATERPILLAR (Estigmene acraea Drury)

Mexico

A. W. Morrill (September 16): The salt-marsh caterpillar was present in the Yaqui Valley practically from the beginning of the season. By the first of September an average of one full-grown worm per plant observed in limited areas, but fortunately owing to rank growth of plants in those areas no appreciable damage was done. In one field of 100 acres infestation is believed to have been beneficial.

COTTON SQUARE DAUBER (Lycus elisus Van D.)

Mexico

A. W. Morrill (September 16): This mirid bug first observed damaging cotton in the Yaqui Valley in 1925 proved very destructive in one field of 400 acres in 1927. This field is producing approximately one bale per acre, but damage to young bolls estimated to be 45 per cent in late July and August prevented a yield of at least one and one-half bales per acre. In other fields in the Yaqui Valley the damage averaged 5 per cent of the bolls destroyed. By September 15 the insect had practically disappeared.

A TINGIDID (Gerraphia iridescent Champ.)

Mexico

A. W. Morrill (September 20): This insect heavily infested and checked the growth of cotton in some fields in the Yaqui Valley

early in the season when plants were less than 8 inches high. A common weed (undetermined) in the Yaqui Valley is the natural food-plant here, and damage to cotton was confined to fields where this was abundant. In all fields cotton finally developed so much faster than the tingids multiplied that there was no apparent effect from the attack. On the whole, it is evident from this season's experience that with reasonably clean cultivation no appreciable damage need be feared from this insect.

FALL WEBWORM (Hyphantria cunea Drury)

Mississippi

R. W. Harned (September 22): Specimens of the fall webworm collected on cotton have recently been received from two localities in Bolivar County, and on locality in Madison County. In all cases the correspondents reported these insects as abundant in one or two spots in their cotton fields.

COTTON BUCCULATRIX (Bucculatrix gossypiella Morrill)

Mexico

A. W. Morrill (September 16): The first specimens for the season in the Yaqui Valley were discovered July 25. On August 1, 20 leaves picked at random were examined showing 12 damaged by tunnelling of larvae at outer end of petioles, at junction with leaf blades. Green boll infestation was very rare at that time. By September 15, 20 leaves from the same locality, approximately the same cotton rows, showed 100 per cent damaged at ends of petioles, the average number of worm tunnels being much greater than 6 weeks earlier. Green bolls show an average of about 5 or 6 spots indicating larvae working in carpels or emerging therefrom. Damage inappreciable to first picking of three-fourths of a bale per acre in a field planted April 15. Later setting of bolls appear to be damaged to the extent of at least 10 per cent.

COTTON APHIS (Aphis gossypii Glov.)

Mississippi

R. W. Harned (September 22): A. L. Hamner observed a cotton field at McCool on September 9 that showed a heavy infestation of the cotton aphid. This particular field had been dusted with calcium arsenate five times in order to control the boll weevil. The cotton was young and had a fairly good bloom on the date examined.

BEAN THIRIPS (Holothrips fasciatus Perg.)

Mexico

A. W. Morrill (September 19): Severe damage in the Yaqui Valley in areas up to 10 acres became conspicuous about August 20, especially noticeably in fields where peas had been grown during preceding winter and spring. In such fields many volunteer pea plants appeared with the young cotton and soon became generally infested with thrips. The peas died during the extremely hot, dry weather in May and June, forcing the thrips to the cotton.

Several heavy rains between August 20 and September 20 reduced the thrips to negligible numbers.

SUGARCANE

SUGARCANE BORER (*Diatraea saccharalis* Fab.)

Louisiana

E. E. Hinds (September 23): The sugarcane borer has multiplied rapidly during the third and fourth generations. The egg parasite, Trichogramma minutem, has helped greatly to check a devastating attack by the borer. Laboratory propagation of Trichogramma has been conducted on the eggs of Sitotroga cerealla at Baton Rouge during the current season and will be increased during the winter with the expectation of colonizing these parasites on Diatraea eggs in corn or cane fields at the beginning of the egg-laying period for the second generation of borers in 1928.

FOREST AND SHADE-TREE INSECTS

MISCELLANEOUS FEEDERS

BAGWORM (*Thyridopteryx ephemeraeformis* Haw.)

Ohio

E. W. Henderhall (September 9): The bagworm is quite bad in Yellow Springs attacking evergreens and also deciduous trees.

Missouri

A. H. Caudell (September 20): I saw a rather small maple tree almost defoliated by the bagworm at Independence.

Kansas

J. W. McCulloch (September 19): The bagworm continues to be a pest of cedar, arborvitae, and boxelder in northeastern Kansas.

WHITE-MARKED TUSSOCK MOTH (*Hemerocampa leucostigma* S. & A.)

Nebraska

H. H. Swenk (August 25-September 25): The white-marked tussock moth continues to be a conspicuous shade-tree pest.

PALE TUSSOCK CATERPILLAR (*Halysidota tessellaris* A. & S.)

New York

E. P. Felt (September 24): The pale tussock moth is causing no damage this year on plane trees in Highland Park, Rochester, where it has been so numerous earlier. The foliage was about all destroyed in the season by blight or anthracnose and this may have had something to do with the scarcity of the insect (E. E. Horsey).

FALL WEBWORM (*Hyphantria cunea* Drury)

New England

J. V. Schäffer, Jr. (September 23): This insect is common

throughout most of New England. Infestations seem to be on the decrease in many localities.

Massachusetts A. I. Bourne (September 26): The fall webworm, on the whole, has been of normal abundance.

Pennsylvania T. L. Guyton (September 27): I would like to report the presence of the fall webworm in rather unusual numbers in the vicinity of York, feeding on the foliage of maple, mulberry, cherry, and apple.

North Carolina O. I. Snapp (August 19): An unusually heavy infestation of the fall webworm on pecan, forest, and shade trees between Charlotte and Greensboro has been reported; some trees were nearly defoliated.

Nebraska M. H. Swenk (August 25-September 25): The fall webworm has been somewhat supernormally numerous on the shade trees in eastern Nebraska during the period covered by this report.

Mississippi R. W. Harned (September 22): The fall webworm has begun to show up on hickory and pecan trees in the vicinity of A. & M. College.

A FALL WEBWORM (Hyphantria textor Harr.)

New York E. P. Felt (September 24): The fall webworm, Hyphantria textor, appeared early in August and was very numerous on all kinds of trees, especially plums and related genera, in Rochester (R. E. Horsey). It was also somewhat numerous in a section about Albany and south in the Hudson Valley.

RED-HUMPED CATERPILLAR (Schizura concinna S. & A.)

New England and New York J. V. Schaffner, Jr. (September 23): Schizura concinna S. & A., is common throughout most of New England and northern New York. It was found feeding on boxelder, elm, poplar, wild cherry, willow, chokeberry, plum, apple, and sweet fern.

Massachusetts A. I. Bourne (September 26): The red-humped caterpillars have been abundant since early August. They have not proven to be so abundant as during 1926, but have been rather more numerous than is usually the case.

GYPSY MOTH (Porthetria dispar L.)

New York Monthly News Letter, Bureau of Entomology, No. 160 (August, 1927): J. V. Schaffner and C. M. Symonds, of the gypsy-moth laboratory, completed on August 30 a two week's trip into New York State, collecting native larvae to determine the dispersion of an imported gypsy-moth parasite, Compsilura concinnata. Although

this tachinid is one of the best of the imported gypsy-moth parasites, it is not dependent upon this host alone. It has been recovered from many native insects, and is known to be present at least 100 miles west of the gypsy-moth dispersion line. Approximately 150 different collections were made. These were obtained from the southeastern, central, and northwestern parts of the State, along a route which included Monroe, Binghamton, Cortland, Sherburne, Cazenovia, Oneida, Syracuse, Parish, Rome, Pulaski, Watertown, Antwerp, Ogdensburg, Gouverneur, Potsdam, Malone, Paul Smiths, Champlain, and Plattsburg. During the fall many parasite records are made from these collections, but in some cases the hosts must be held through the winter to obtain the parasites after hibernation.

ORIENTAL HAG MOTH (Cnidocampa flavescens Walk.)

Massachusetts

J. V. Schaffner, Jr. (September 23): In Dorchester and Roxbury, Suffolk County, Cnidocampa flavescens Walk. (oriental hag moth) is defoliating various small trees and shrubs in several back yards and vacant lots. On September 20, I noted the following completely defoliated: Norway maple, black birch, buckthorn, black oak, wild cherry, chokeberry, and pears.

CLOVER MITE (Bryobia praetiosa Koch)

Nebraska

M. H. Swenk (August 25-September 25): The clover mite has laid its eggs in larger numbers than usual on the trees in the vicinity of Omaha.

RED SPIDER (Tetranychus telarius L.)

New York

E. P. Felt (September 24): The red spider has been much less numerous than usual on Rochester evergreens owing to the cool, wet summer (R. E. Horsey).

Indiana

J. J. Davis (September 24): Red spiders injured red cedar at Indianapolis September 10, and elm at Richmond September 17.

Illinois

W. F. Flint (September 19): This mite has been reported from many sections of the State during the first of September.

A RED SPIDER (Tetranychus sp.)

New York

E. P. Felt (September 27): A red spider, Tetranychus sp., covered a large basswood tree at Rochester with a very pale web, there being a strip about two feet wide, and extending up into the tree and out along the bark on the branches. Beneath were millions of yellowish mites, giving a distinct yellowish color to the infested portion of the bark (R. E. Horsey). Five years ago, a similar condition, though the infested areas were smaller, was observed on a large beech tree at Port Chester, Westchester County, except

that the patches covered by the mites were only several inches in diameter and scattered here and there upon the trunk.

APHIIDAE

Virginia

O. I. Snapp (August 20): Aphids were more abundant on maples and other shade trees this summer than for many years. Many complaints have been registered about "honeydew."

OYSTER-SHELL SCALE (*Lepidosaphes ulmi* L.)

Colorado

C. P. Gillette (September 8): This scale has become very destructive to ash and purple lilac bushes in Colorado from Dover northward. It is also destructive to the willows and even cottonwoods. In Fort Collins some large cottonwoods have died, apparently from the attack of this scale. At present, it promises to almost eliminate the ash trees from northern Colorado, except in towns where prompt measures are taken to keep it in check.

ARBORVITAE

STRAWBERRY ROOT WEEVIL (*Brachyrhinus ovatus* L.)

Ohio

E. W. Nendehall (September 10): The strawberry root weevil has been doing considerable damage to the arborvitae stock in the nursery at New Moore Field near Springfield. They girdle the new shoots and kill the plant back.

BIRCH

BIRCH LEAF MINER (*Fenusia pumila* Klug)

Maine

J. V. Schaffner, Jr. (September 23): Mr. Barnes of the gypsy-moth laboratory reports that through Bingham, Moscow, Carratunk, and The Forks in Somerset County, the foliage of paper birch is badly browned by a leaf miner, probably *Fenusia pumila* Klug.

New York

E. P. Felt (September 24): The birch leaf miner has been generally abundant in eastern portion of the State, browning the young terminal leaves.

BIRCH SKELETONIZER (*Bucculatrix canadensisella* Chamb.)

New York

E. P. Felt (September 24): The birch leaf skeletonizer cocoons were fairly common on red birch in Highland Park, Rochester, though little damage was seen (R. E. Horsey).

BOXELDER

A LEAF MINER (*Gracilaria negundella* Chamb.)

Colorado

C. P. Gillette (September 8): This little miner of the boxelder

leaves has been unusually abundant in the vicinity of Fort Collins during the past summer. The larvae first make numerous small blotch mines on the leaves which they leave when only partly grown, and then roll the leaves in which to feed and complete their development. Boxelder leaves were received from near Akron that had been almost completely skeletonized from the attack of this miner.

CATALPA

CATALPA SPHINX (Ceratomia catalpae Boisd.)

Ohio

E. W. Mendenhall (September 9): The catalpa sphinx is quite abundant on catalpa trees at Yellow Springs and is doing considerable damage. (September 14): The catalpa sphinx is doing a lot of damage to the catalpa trees at West Alexandria, Preble County.

ELM

EUROPEAN ELM SCALE (Gossyparia spuria Modeer)

New York

E. P. Felt (September 24): The elm bark louse, Gossyparia spuria is not common in Rochester on trees which are watched and sprayed though a badly infested elm was seen near Lake Ontario (R.E. Horsey).

Colorado

C. P. Gillette (September 8): This scale has long been present in some of the parks and nurseries about Denver, and is also gradually spreading to other parts of the State. Apparently this insect is thriving as well in the dry climate of Colorado as in the eastern portions of the country.

ELM LEAF BEETLE (Galerucella xanthomelaena Schrank)

Connecticut

W. E. Britton (September 24): This insect is apparently less abundant than usual. I have seen some injury here and there about the State, but it was nowhere serious and the very wet weather in July and August was favorable to the trees and unfavorable to the insect.

HACKBERRY

A LACE BUG (Corythucha celtidis O. & D.)

Mississippi

R. W. Harned (September 22): Quite a number of hackberry trees in the city of Columbus are suffering from an attack of the hackberry tingid, Corythucha celtis mississippiensis.

HEMLOCK

HEMLOCK SPANWORM (Elloptia fiscellaria Guen.)

New York

J. V. Schaffner, Jr. (September 23): Elloptia fiscellaria Guen.

was found to be abundant on hemlock in sections of Theresa, Plessis, and Redwood, in Jefferson County on August 26. In one area of about 50 acres, the stand being 80 to 90 per cent hemlock, the hemlock trees were stripped while the foliage of the deciduous growth showed very light feedings. A collection of larvae brought to the laboratory began giving adults of this species on September 12.

E. P. Felt (September 24): Hemlock measuring worms were extremely abundant near Theresa, Jefferson County, some 200 acres of hemlock being defoliated and presumably there was less material injury over a considerable area. Moths were flying in large numbers September 18 and depositing numerous eggs.

HICKORY

HICKORY BARK BEETLE (*Scolytus quadrispinosus* Say)

North
Carolina

Monthly News Letter, Bureau of Entomology, No. 160 (August, 1927): On July 15, 17, and 18 an outbreak of the hickory bark beetle, (*Eccoptogaster quadrispinosus*) was discovered at Swannanoa, N.C. It has been in progress since the fall of 1925, when severe drought weakened many hardwoods and conifers. The outbreak was rapidly increasing in size, and if it had not been checked would undoubtedly have killed all of the hickories in its vicinity within the next two or three years.

R. A. St. George (September 27): On September 9, R. A. St. George left Asheville, N. C., for the Eastern Field Station, East Falls Church, Va. On the way across the State of North Carolina many dying hickory and oak trees were noted that appeared to be in a condition similar to those in the western part around Asheville and vicinity. This was particularly so at High Point and Greensboro. At the former place two large estates were visited on which there were about 50 dead hickory and 25 dead oak trees. The hickory trees were heavily infested by broods of the hickory bark beetle, *Eccoptogaster quadrispinosus* Say, which were mainly in the larval stage. A few eggs were also found. Judging from the similarity of conditions with those near Asheville, where a thorough study of the situation was made, it would appear that the trees were weakened from the effects of the drought of 1925 and were attacked that fall for the first time and have been breeding up in numbers since then. They have increased in numbers to such an extent that they are now a real menace to the community. At Greensboro in the Guilford Courthouse National Military Park, some 80 hickory trees were estimated to be infested by the hickory bark beetle.

LOCUST

LOCUST LEAF MINER (*Chalepus dorsalis* Thunb.)

Massachusetts

J. V. Schaffner, Jr. (September 23): Mr. Hood of the gypsy-moth

laboratory reported through southeastern Massachusetts, large numbers of black locust trees heavily fed upon by Chalepus dorsalis Thunb.

New York

E. P. Felt (September 24): The locust leaf miner has been reported as causing the browning of locust foliage in extensive Long Island areas.

LOCUST BORER (Cyllene robiniae Forst.)

Colorado

C. P. Gillette (September 8): This pest, which was introduced into Colorado many years ago in the vicinity of Denver, has gradually spread northward and eastward until it has destroyed a large proportion of the black locust trees in eastern Colorado. It was first noticed in Fort Collins only three or four years ago, and now the black locust trees in the city are nearly all dead or dying.

MAPLE

IMPERIAL MOTH (Basilona imperialis Drury)

Indiana

J. J. Davis (September 24): The imperial moth caterpillar partially defoliated Norway maples at Princeton on September 13.

GREEN STRIPED MAPLE WORM (Anisota rubicunda Fab.)

Kansas

J. W. McColloch (September 16): The green striped maple worm has defoliated a quarter of mile row of maple trees at Olathe.

FALSE COTTONY MAPLE SCALE (Pulvinaria acericola Walsh & Riley)

Ohio

E. W. Mendenhall (September 26): I find the maple leaf scale on maple and haw trees in Columbus and vicinity.

OAK

OAK PILLGALL (Cincticornia pilulae Walsh)

Kentucky

E. P. Felt (September 24): The oak pill gall was extremely abundant on pin oak leaves at Louisville. Some of the trees showed a scanty pale foliage and individual trees bore from 20 to 30 moderate sized galls.

Texas

E. P. Felt (September 24): Oak leaves badly infested by this species were received from Forestburg.

RED-HUMPED OAK CATERPILLAR (Symmerista albifrons S. & A.)

Michigan

R. H. Pettit (September 27): Considerable defoliation of oak trees by the red-humped oak caterpillar is being reported from the northern part of the State.

TWO-LINED CHESTNUT BORER (Agrilus bilineatus Web.)

North
Carolina

R. A. St. George (September 27): Oak trees, consisting mainly of red and black, with some white oaks, were found to be suffering from a combination of causes. The principal ones seemed to be drouth and old age combined with a heavy attack of Agrilus all along the stem. A similar condition of the oaks was noted some 12 to 15 years ago in the northeast. Many of them died following a period of drouth; they were also infested by the same insect. Several oaks were noted to be dying in the Guilford Courthouse National Military Park also.

PINE

EUROPEAN PINE SHOOT MOTH (Evetria buolianana Schiff.)

Ohio

E. W. Mendenhall (August 27): The European pine shoot moth is reported from Cuyahoga County as doing considerable damage to Austrian pine in a nursery.

SOUTHERN PINE BEETLE (Dendroctonus frontalis Zimm.)

North Carolina
and
South Carolina

Monthly News Letter, Bureau of Entomology, No. 160 (August, 1927): The southern pine beetle which has been rather inactive since spring, was discovered in numbers in the last two or three weeks.

INTRODUCED PINE SAWFLY (Diprion simile Hartig)

New York

E. P. Felt (September 24): The European pine sawfly has been very abundant in Rochester since September 1, the second brood striping some of the pines (R. E. Horsey).

POPLAR

POPLAR BORER (Saperda calcarata Say)

Ohio

E. W. Mendenhall (September 9): I find the Carolina poplars in Yellow Springs affected by the poplar borer.

COTTONWOOD DAGGER MOTH (Acronycta lepuscurina Guen.)

Nebraska

M. H. Swenk (August 25-September 25): From Dundy County, during the middle of September, a report was received of severe defoliation of poplar trees by the cottonwood dagger moth.

SPRUCE

SPRUCE GALL APHID (Chermes abietis L.)

New York

E. P. Felt (September 24): The spruce gall aphid is abundant on white and blue spruce in Rochester, both in parks and private grounds (R. E. Horsey).

PINE SCALE (Chionaspis pinifoliae Fitch)

Nebraska

H. H. Swenk (August 25-September 25): Numerous complaints of injury to spruce trees by the pine leaf scale have been received during the period covered by this report.

WILLOW

EUROPEAN WILLOW BEETLE (Plagiodera versicolora Laich.)

Connecticut

W. E. Britton (September 24): Apparently distributed over nearly all of the State. Feeds on glossy leaved willows.

G R E E N H O U S E A N D O R N A M E N T A L P L A N T S

ASTER

BLACK BLISTER BEETLE (Epicauta pennsylvanica DeG.)

Indiana

J. J. Davis (September 24): The black blister beetle was reported damaging aster at Fort Branch, LaFayette, and Goodland the latter part of August and early September.

CHRYSANTHEMUM

CHRYSANTHEMUM APHID (Macrosiphoniella sanborni Gill.)

Ohio

E. W. Mendenhall (September 16): The black chrysanthemum aphid is quite abundant on chrysanthemum in the greenhouse at Piqua.

CHRYSANTHEMUM LACE BUG (Corythucha marmorata Uh.)

Mississippi

R. W. Harned (September 22): Specimens of the chrysanthemum lace bug were received on September 17 from Meridian, where they were causing serious injury to chrysanthemum.

IRIS

IRIS BORER (Macronoctua onusta Grote)

New York

E. P. Felt (September 24): The iris borer was seriously injurious to a large planting of Japanese iris and German iris in Dutchess County.

Maryland

E. N. Cory (September 13): On August 22 larvae and pupae, mostly the former, were found at Beltsville and on August 25 they were found in Baltimore, these mostly pupae.

Indiana

J. J. Davis (September 24): Iris borers were reported abundant and destructive to iris at South Bend the last of August.

LILAC

LILAC LEAF MINER (Gracilaria syringella Fab.)

Massachusetts E. P. Felt (September 24): Work of this species was received from A. P. Morse, Salem. The insect is causing the lilacs in that section to look quite disreputable.

New York E. P. Felt (September 24): The lilac leaf miner is generally distributed, and was seriously injurious to lilacs and privet in Rochester, and apparently the same work was observed at Niagara Falls (R. E. Horsey).

Colorado C. P. Gillette (September 8): This pest was first noticed in Denver city parks several years ago, but it has now spread as far north as Fort Collins on the eastern slope and has become a rather serious pest to lilacs. Both last year and this, some of the bushes in the vicinity of Fort Collins have as high as 90 per cent of their leaves mined by this little moth. It first mines the leaf and then when about half-grown, the larvae leave the mines and roll the leaves in which they feed to finish their development.

PALMS

A BORER (Dinapate wrighti Horn)

California F. H. Wymore (August 4): This is the first report we have had of this borer attacking living wood. In this case about 90 per cent of the transplanted fan-leaf palms were injured by the adult beetle boring into the growing tree tip or bud.

ROSE

UNICORN CATERPILLAR (Schizura unicornis S. & A.)

Mississippi R. W. Harned (September 22): On September 20, Mr. H. Gladney, Ocean Springs, collected specimens of the unicorn prominent on a rose bush. He believes at least there have been three generations this year as this is the third time he has collected this species in the same yard this season.

I N S E C T S A T T A C K I N G M A N A N D
D O M E S T I C A N I M A L S

MAN

BEDBUG (Cimex lectularius L.)

Indiana J. J. Davis (September 24): Frequent reports of trouble in dwelling houses are being received. The bugs were reported abundant and harmful in poultry houses at Rockville September 12.

MOSQUITOES (Culicidae)

Utah

G. F. Knowlton (September 3): Mosquitoes are so numerous in the beet fields around Thatcher and Penrose that it is difficult for men to work.

FLEAS (Ctenocephalus canis Curtis and
(Ctenocephalus felis Bouche))

Nebraska

H. H. Swenk (August 25-September 25): A rerudescence of complaints of infestations of houses, farm buildings, and hog lots by fleas similar to the situation during July occurred during the period covered by this report.

General statement

F. C. Bishopp (September 27): Complaints of household infestations of dog and cat fleas have come in from various parts of the United States in about the usual number. Many of these reports come from eastern Pa., Md., and D.C., and also some from Oregon.

CHIGGERS (Trombicula irritans Riley)

Texas

F. C. Bishopp (September 10): Chiggers have been rather troublesome throughout the season and are perhaps more abundant now than during the past several weeks.

SADDLE-BACK CATERPILLAR (Sibine stimulea Clem.)

Indiana

J. J. Davis (September 24): The saddle-back caterpillar was reported from Greensburg on August 29, and from Liberty September 14.

ANIMALS

CATTLE

STABLE FLY (Stomoxys calcitrans, L.)

Kansas

J. W. McColloch (September 19): There has been a plague of flies, principally stable flies, in central Kansas. Farmers report that they are unable to work their horses and mules. Some animals are dying in Ellsworth and Kingman Counties. Milk and cream production has fallen off greatly in Reno, Phillips, and Kingman Counties. Beef cattle have lost weight. One shipper in Kingman County reports that his cattle lost 100 pounds per head. (September 21): A report from Bushlong states that the flies are very bad and that cattle are losing weight.

Arkansas

F. C. Bishopp (September 12): Stable flies are observed to be abundant and causing much annoyance to live stock in the central and northeastern parts of the State. The rice straw is no doubt responsible for at least part of this trouble.

General statement

F. C. Bishop (September 26): Reports indicate about the usual amount of annoyance and losses from stable flies throughout the grain belt.

OX WARBLE (*Hypoderma linoatum* DeVill.)

Texas

F. C. Bishop (September 15): Young stock are now showing heavy infestations of grubs. One group of eight head averaged 28 grubs per head; older cattle show lighter infestations. Although many of the grubs are in the late fifth stage, apparently none have matured and emerged.

SHEEP AND GOATS

SCREW WORM (*Cochliomyia macellaria* Fab.)

Texas

F. C. Bishop (September 25): Screw worm flies have diminished in number through the major part of Texas. While there have been a good many cases in sheep and goats following fall shearing, the trouble has not been so bad as was anticipated, and in fact, is less acute than normal for shearing time.

HONEY BEES

WAX MOTH (*Galleria mellonella* L.)

Nebraska

M. H. Swenk (August 25-September 25): The unusual number of reports of infestation of colonies of honey bees with the wax moth mentioned in my last report, continued during late August and early September.

TURKEYS

THE BIRD TICK (*Haemaphysalis chordeilis* Pack.)

Michigan

R. H. Pettit (September 14): Specimens of a tick were received on the 15th of August from Benzonia with word that the turkeys run in the woods and come in with so many of these ticks about their heads that it is necessary to remove the ticks. These ticks were determined by Dr. H. E. Ewing as *Haemaphysalis chordeilis* commonly called the bird or turkey tick. I believe this will prove to be the first record for Michigan.

I N S E C T S I N F E S T I N G H O U S E S
A N D P R E M I S E S
T E R M I T E S

Nebraska

M. H. Swenk (August 25-September 25): A new infestation of a residence in Lincoln with our common termite, Reticulitermes tibialis Banks, was reported during the first week in September.

Kansas

J. W. McColloch (September 9): A number of reports of termite injury have been received since my last report. Woodwork in dwellings has been destroyed at Olathe, Stockton, Osage City, Hope, Neodesha, Iola, and Abilene. The repairs on one house at Iola cost \$1,500. Damage to farm buildings is reported from Salina, Stockton, and Wells. Business buildings have been damaged at Natoma and Hope. Print paper in a newspaper plant at Herington was injured. A few trees at Stockton are infested.

A R G É N T I N E A N T (Iridomyrmex humilis Mayr)

Mississippi

R. W. Harned (September 22): We have received a complaint from a person living in Starkville that the Argentine ants are so troublesome on his property that they have caused sitting hens to desert their nests. Many people in Aberdeen complain that the ants are so numerous in their houses that they have to shake them from the bed clothing at night. This town has not put on a control campaign since 1922.

C A R P E N T E R A N T (Camponotus herculeanus pennsylvanicus DeG.)

Kansas

J. W. McColloch (September 16): Carpenter ants are reported infesting a dwelling at Stockton.

A N A N T (Frenolepis (Nylanderia) sp.)

Mississippi

R. W. Harned (September 22): A housekeeper in Starkville complains that the small sugar ant, Frenolepis (Nylanderia) sp., has been causing her a great deal of trouble, getting into jellies and preserves.

B O O K L C O U S E (Troctes divinatorius Ill.).

Kansas

J. W. McColloch (September 8): A suite of mohair furniture in a residence at Wichita is heavily infested with book lice.

P O W D E R P O S T B E E T L E S (Lyctus spp.)

Indiana

J. J. Davis (September 24): Powder post beetles were reported as damaging timbers of a building at Albion on September 9.

CIGARETTE BEETLE (Lasioderma serricorne Fab.)

Kansas

J. W. McColloch (August 26): A bad infestation of the cigar beetle is reported in a drug store at Kincaid.

A YELLOW JACKET (Vespa diabolica Sauss.)

New York

E. P. Felt (September 24): Yellow jackets, Vespa diabolica Sauss. proved annoying in a Wading River, L. I., dwelling, since they appeared to be nesting in window casings, gaining entrance through the holes above the sash cords.

S T O R E D G R A I N I N S E C T S

WEEVILS (Sitophilus spp.)

Georgia

O. I. Snapp (September 12): Reports are coming to the laboratory of considerable injury to corn in the field from weevils.

Indiana

J. J. Davis (September 24): Grain weevils were reported abundant in wheat and seeds in Indianapolis on September 13.